

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A concentric hopper and burn chamber comprising:
a burn chamber in which to combust solid sulphur, the burn chamber comprising one or more sidewalls, a base, a lid and a gas outlet; and
a hopper to hold solid sulphur to be combusted, the hopper comprising one or more sidewalls, a base and a lid, wherein the sulphur hopper substantially surrounds the burn chamber; and;
a conduit connected to the gas outlet for containing and conducting gases of combustion for further treatment of the gases of combustion.
2. (Original) The concentric hopper and burn chamber of claim 1 further comprising a hatch in the lid of the hopper to permit loading sulphur into the hopper.
3. (Currently Amended) A sulphurous acid generator apparatus comprising:
a burn chamber in which to combust solid sulphur, the burn chamber comprising one or more sidewalls, a base, a lid and a gas outlet;
a hopper to hold solid sulphur to be combusted, the hopper comprising one or more sidewalls, a base and a lid, wherein the sulphur hopper substantially surrounds the burn chamber;
a first conduit connected to the gas outlet for conducting sulphur dioxide gas;
a second conduit for conducting a stream of water; and
means for passively introducing the sulphur dioxide gases conducted in the first conduit into the stream of water in the second conduit.
4. (Previously Amended) The sulphurous acid generator of claim 3 further comprising means for substantially eliminating any discharge plume by reducing moisture content of gases and vapors exiting the apparatus.

5. (Currently Amended) A concentric hopper and burn chamber comprising:
a burn chamber in which to combust solid sulphur, the burn chamber comprising one or
more sidewalls, a base, a lid and a gas outlet;
a hopper to hold solid sulphur to be combusted, the hopper comprising one or more
sidewalls, a base and a lid, wherein the sulphur hopper substantially surrounds the
burn chamber;
a conduit connected to the gas outlet for containing and conducting gases of combustion
for further treatment of the gases of combustion; and
a housing adjacent the burn chamber to capture radiant heat of the burn chamber.

6. (Currently Amended) A sulphurous acid generator apparatus, wherein the sulphurous acid generator combusts sulphur creating radiant heat of and about the apparatus, the apparatus generating a discharge of gases and/or vapors including moisture causing a visible discharge plume, the improvement comprising:

a burn chamber in which to combust solid sulphur, the burn chamber comprising one or
more sidewalls, a base, a lid and a gas outlet;
a hopper to hold solid sulphur to be combusted, the hopper comprising one or more
sidewalls, a base and a lid, wherein the sulphur hopper substantially surrounds the
burn chamber; and
means for substantially eliminating any discharge plume.

7. (Currently Amended) The apparatus of claim 6 where the means for substantially
eliminating any discharge plume comprises reducing a the moisture content of the discharge.

8. (Previously Amended) The apparatus of claim 6 wherein the means for substantially
eliminating any discharge plume utilizes the radiant heat created by the apparatus to reduce
moisture content of the discharge.

9. (Original) The apparatus of claim 6 wherein the means for substantially eliminating any
discharge plume comprises a heated housing through which exiting gases and vapor flow.

10. (Previously Amended) The apparatus of claim 9 wherein the housing is heated by the radiant heat created by combustion of sulphur in the apparatus.

11. (Currently Amended) A sulphurous acid generator apparatus comprising:

a burn chamber in which to combust solid sulphur, the burn chamber comprising one or more sidewalls, a base, a lid and a gas outlet;

a first conduit connected to the gas outlet for conducting sulphur dioxide gas; and

a second conduit for conducting a stream of water, the second conduit comprising a restrictor,

wherein the first conduit extends into the restrictor so as to both point and terminate downstream in the restrictor; and

a blender disposed in the second conduit downstream of the restrictor.

12. (Currently Amended) A sulphurous acid generator apparatus comprising:

a burn chamber in which to combust solid sulphur, the burn chamber comprising one or more sidewalls, a base, a lid and a gas outlet;

a first conduit connected to the gas outlet for conducting sulphur dioxide gas; and

a second conduit for conducting a stream of water, the second conduit comprising a restrictor,

wherein the first conduit extends into the restrictor so as to both point and terminate downstream in the restrictor; and The apparatus of claim 11 further comprising means for substantially eliminating any discharge plume by reducing a moisture content of gases and vapors exiting the apparatus.

13. (Currently Amended) The apparatus of claim 121 wherein the means for substantially eliminating any discharge plume utilizes radiant heat created by the apparatus to reduce a moisture content of the discharge.

14. (Currently Amended) The apparatus of claim 124 wherein the means for substantially eliminating any discharge plume comprises a heated housing through which exiting gases and vapor flow.

15. (Original) The apparatus of claim 14 wherein the housing is heated by radiant heat created by combustion of sulphur in the apparatus.

16. (Original) A method for using a sulphurous acid generator apparatus, the method comprising:

contacting water with sulphur dioxide gas in a sulphurous acid generator apparatus to produce a treated acidic water, wherein the sulphurous acid generator apparatus comprises:

a burn chamber in which to combust solid sulphur, the burn chamber comprising one or more sidewalls, a base, a lid and a gas outlet;
a first conduit connected to the gas outlet for conducting sulphur dioxide gas; and a second conduit for conducting a stream of water, the second conduit comprising a restrictor,
wherein the first conduit extends into the restrictor so as to both point and terminate downstream in the restrictor.

17. (Original) The method of claim 16 wherein the burn chamber further comprises means for substantially eliminating any discharge plume, the means comprising reducing moisture content of gases and moisture exiting the apparatus.

18. (New) The method of claim 16 further comprising improving crop growth by irrigating crops with the treated acidic water.

19. (Original) The method of claim 18 further comprising increasing a level of sulphur in the crops by allowing the crops to take up sulphur from the treated acidic water.

20. (Original) The method of claim 18 further comprising increasing a level of a sulphur-containing chemical compound in the crops by allowing the crops to take up sulphur from the treated acidic water.